

### **REMARKS/ARGUMENTS**

Claim 14 is amended to correct a typographical error and not for patentability reasons. Claims 1-29 remain pending in the application, although claims 16-18 are withdrawn.

Applicants respectfully request reconsideration and reexamination of the application.

Initially, Applicants acknowledge with appreciation the Examiner's indication that claims 1-12 are allowable and claims 15 and 25-29 contain allowable subject matter. As discussed below, Applicants assert that all pending claims (including withdrawn claims 16-18) are allowable.

Claims 13 and 14 were objected to. Applicants have amended claim 14 as suggested by the Examiner and believe that the objection to claim 14 has been overcome.

With regard to claim 13, the Examiner questions the "means for electrically signaling." Applicants respectfully traverse the objection to claim 13.

35 USC § 112, sixth paragraph, expressly allows a claim element to be expressed in terms of a means for performing a function, while requiring that the specification disclose at least one exemplary device or structure for performing the function. (See 35 USC § 112, sixth paragraph.) The specification discloses a computer, microprocessor, or microcontroller as a non-limiting example of a "means for electrically signaling." In one example discussed in the specification, a computer monitors the position of a probe card and "applies corrective action" if the position of the probe card changes by more than a predetermined distance. (See the specification, pg. 18, lines 5-15; and Figure 10, element 80.) The computer does so by providing control signals to whatever corrective device is being used. For example, the computer may be located in the tester 180 and provide control signals to move the stage 150 via cable 180b. (See the specification, pg. 20, lines 5-9; see also pg. 17, lines 6-9.) As another alternative, the computer may be located elsewhere and may provide control signals via other communication means, such as wired connections, RF transmissions, light, or energy beam transmissions. (See the specification, pg. 20, lines 10-13.) As yet another alternative, the computer may provide electrical control signals to a device for applying a mechanical force to the probe card (see the specification, pg. 12, lines 9-10) or to energy transmissive devices (see the specification, pg. 13, lines 7-9). The "means for electrically signaling" element of claim 13 thus fully complies with all applicable statutes and rules and is not objectionable. Applicants therefore request that the objection to claim 13 be withdrawn.

Claims 19-24 were rejected under 35 USC § 102(b) as anticipated by US Patent No. 4,780,836 to Miyazaki et al. ("Miyazaki"). Applicants respectfully traverse this rejection.

The purpose and function of Miyazaki are fundamentally different than independent claim 19 of the instant application. Claim 19 is directed to a method for monitoring changes in the position of a probe card with respect to an electronic device and, if the position of the probe card changes by more than an allowable tolerance, correcting the change in the position of the probe card. In contrast, Miyazaki is not concerned with monitoring a probe card for changes in position and correcting the position of the probe card. Rather, Miyazaki is directed to testing the probe card 3 to determine (1) the maximum difference in the heights of the needles 14 of the probe card 3 and (2) the contact resistance of the needles 14. Miyazaki does not "[monitor] an actual distance of said probe card from said electronic device" and "[adjust] said actual distance if said actual distance becomes smaller or greater than a predetermined range of allowable distances." In fact, the only way in which Miyazaki "adjusts" the distance between the wafer 4 and the probe card 3 is to move the wafer 4 towards the probe card 3 in predetermined five micron increments.<sup>1</sup> The five micron incremental movements are preset and do not depend on monitoring of actual distance between the probe card 3 and the wafer 4 much less a determination that the actual distance has varied beyond a tolerance. For this reason, independent claim 19 distinguishes over Miyazaki.

Dependent claim 20 further states that the monitoring and adjusting of the probe card occur during testing of the electronic device. As one non-limiting example, heat generated during testing of an electronic device can cause the probe card to warp (and thereby change position), and the process of claim 19 (claim 20 depends from claim 19) corrects such warping. All of the five micron movements of the wafer 4 in Miyazaki occur before the wafer 4 is tested, which is the last step in the flow charts of Figures 7 and 8. Thus, Miyazaki does not adjust the distance between the probe card 3 and the wafer 4 during testing of the wafer 4. Therefore, dependent claim 20 further distinguishes over Miyazaki.

Dependent claim 22 further requires that the monitoring step in claim 19 include monitoring the pressure of the probes against the electronic device. (A non-limiting example of monitoring the distance between the probe card and the electronic device by monitoring the

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<sup>1</sup> Miyazaki counts the number of increments moved between contact with the first needle 14 and the last needle 14 and multiplies that count by five microns to arrive at the maximum difference in heights among the needles 14.

pressure of needles against the electronic device is discussed in the specification of the instant application on page 17, lines 10-14.) Contrary to the assertion in the Office Action, determining a contact resistance of Miyazaki's needles 14 is not the same as monitoring a pressure of the needles 14 against the wafer 4. Therefore, dependent claim 22 further distinguishes over Miyazaki.

Claims 21, 23, and 24 also depend from claim 19 and therefore also distinguish over Miyazaki.

Claims 13 and 14 were not rejected in view of prior art. Applicants therefore assume that claims 13 and 14 are allowable over the prior art of record. Applicants note that claim 13 is generic to (and thus a genus of) at least species A, E, and F of the Restriction of May 1, 2003. In addition, each of withdrawn claims 16-18 is generic to species F and at least one other species. Claim 13 is therefore a linking claim that links the invention of claim 13 to the withdrawn inventions of claims 16-18. (See MPEP § 809.03.) Applicants therefore request that, upon allowance of claim 13, claims 16-18 be rejoined and examined as required by the MPEP. (See MPEP § 809.) Moreover, assuming claim 13 is allowable, claims 16-18 are also allowable because of their dependency on claim 13.


As a final note, the prior art listing from an Information Disclosure Statement mailed by Applicants on September 8, 2004 and received by the PTO on September 13, 2004 has not been returned. The prior art listing identifies ten references and is on PAIR. Applicants request that the references in the listing be considered and the listing be initialed and returned.

In view of the foregoing, Applicants submit that all of the claims are allowable and the application is in condition for allowance. If the Examiner believes that a discussion with Applicants' attorney would be helpful, the Examiner is invited to contact the undersigned at (801) 323-5934.

Respectfully submitted,

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